WARD et al., Ser. No. 10/731,123

AMENDMENTS TO THE CLAIMS

- 1. (original) A process for preparing cis- or trans-1,2-diaminocyclohexane-N,N,N',N'-tetraacetic acid which comprises the steps of
 - (a) neutralizing an aqueous solution of chloroacetic acid with a non-metal amino or hydroxy base;
 - (b) reacting cis- or trans-1,2-diaminocyclohexane with a non-metal amino or hydroxy base;
 - (c) treating the product from step (b) with a dilute solution of sodium hydroxide;
 - (d) treating the resulting product of step (c) with acid and then
 - (e) recovering the product formed.
- (original) The process of claim 1 wherein step (a) is conducted at a temperature not greater than 10°C.
- 3. (original) The process of claim 2 wherein the reaction of step (b) is at a temperature between 75°-80°C.
- 4. (currently amended) The process of claim 3, comprising the steps of:
 - (a) neutralizing chloroacetic acid in an aqueous medium with a non-metal amino or hydroxy base compound at a temperature of less than 10°C;
 - (b) reacting said neutralized chloroacetic acid with 1,2-diaminohexane at a temperature of less than 80°C;
 - (c) adding a non-metal amino or hydroxy base to complete neutralization so as to form an aqueous mixture;
 - (d) heating the aqueous mixture to a temperature of less than 100°C;

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- (e) filtering the mixture from (d);
- (f) treating the aqueous filtrate with hydrochloric acid until a precipitate forms,
- (g) filtering the aqueous filtrate; and then
- (h) recovering 1,2-diaminocyclohexanetetraacetic acid and optionally redissolving said 1,2-diaminocyclohexanetetraacetic acid in an aqueous solution and repeating steps step (c).
- 5. (previously presented) The process of claim 1 wherein the non-metal amino or hydroxy base is selected from the group consisting of sodium hydroxide, tetramethyl ammonium hydroxide, tetraethylammonium hydroxide, monoethanolamine, isopropylamine, diethanolamine, 2-amino-1-propanol, 2-amino-2-ethoxy propanol and mixtures thereof.
- 6. (previously presented) The process of claim 1 wherein the non-metal amino or hydroxy base in step (a) is different from that used in step (c).
- 7. (previously presented) The process of claim 1 wherein the non-metal amino or hydroxy base in step (a) is tetramethylammonium hydroxide and in step (b) ammonium hydroxide.
- 8. (previously presented) The process of claim 1 wherein sodium hydroxide is used as hydroxy base in steps (a) and (c).
- 9. (new) The process of claim 3 wherein the non-metal amino or hydroxy base is selected from the group consisting of sodium hydroxide, tetramethyl ammonium hydroxide, tetraethylammonium hydroxide, monoethanolamine, isopropylamine, diethanolamine, 2-amino-1-propanol, 2-amino-2-ethoxy propanol and mixtures thereof.
- 10. (new) The process of claim 3 wherein the non-metal amino or hydroxy base in step (a) is different from that used in step (c).

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(new) The process of claim 3 wherein the non-metal amino or hydroxy base in step (a) is 11.

tetramethylammonium hydroxide and in step (b) ammonium hydroxide.

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- (new) The process of claim 3 wherein sodium hydroxide is used as hydroxy base in steps 12. (a) and (c).
- (new) A process for preparing cis- or trans-1,2-diaminocyclohexane-N,N,N',N'-tetraacetic acid which comprises the steps of
 - neutralizing chloroacetic acid in an aqueous medium with a non-metal amino or (a) ' hydroxy base compound at a temperature of less than 10°C;
 - reacting said neutralized chloroacetic acid with 1,2-diaminohexane at a **(b)** . temperature of less than 80°C;
 - adding a non-metal amino or hydroxy base to complete neutralization so as to form an aqueous mixture:
 - (d) heating the aqueous mixture to a temperature of less than 100°C;
 - filtering the mixture from (d); (e)
 - **(f)** treating the aqueous filtrate with hydrochloric acid until a precipitate forms;
 - (g) filtering the aqueous filtrate; and then
 - recovering 1,2-diaminocyclohexanetetraacetic acid and optionally redissolving (b) said 1,2-diaminocyclohexanetetraacetic acid in an aqueous solution and repeating steps (c) to (g),

wherein sodium hydroxide is used as hydroxy base in steps (a) and (c).